



# PHILIPS

**Philips Medical Systems DMC GmbH**

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**SERVICE MANUAL**

**742**

**UNIT**

**Replacement kit Rotor Control HS**  
**for rel. 2 generators**  
**9890 000 61323**

File this documentation in manual: OPTIMUS section 8 "SERVICE INFORMATION"

DMC Hamburg

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## SERVICE MANUAL - UNIT

### Replacement kit Rotor Control HS for rel. 2 generators

Author: Th. Frenschek

Type No: 9890 000 61323

In case there are any questions concerning this manual,  
please send this LOPAD via fax to 49/(0)40/5078 2481

File: RK\_RoCo\_HS\_rel2\_22433AA

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#### List of pages and drawings (LOPAD)

**Manual Order No: 4512 984 22433**  
**released: 10/2003**

1  
2

3...7 (03.0)

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Z1-13.2	(c/00.0)	A3	RK RoCo HS
5Z-2	(99.0)	A3	RK RoCo HS

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## 1. Introduction

This document describes the detailed replacement procedure for the rotor control unit.

Additional stator inductance measurements are described to detect stator inductance problems which can lead to rotor control failures.

## 2. Compatibility

Rotor control HS	9890 000 02212	4512 104 71401/2/3/4/5
OPTIMUS RAD	9890 000 02001	release $\leq$ 2.x

## 3. Scope of delivery

Rotor control HS unit replacement kit 9890 000 6132x

comprising

- Rotor control HS 4512 104 7410x  
including software 4512 113 22341
- This manual 4512 984 22433AA

## 4. Tools

- Standard tool set
- Service PC with XRGScope
- Inductivity measuring device to be obtained locally  
or to be ordered at SL Hamburg (4512 101 77141)

## 5. Service reliability information

Permanently interested in quality improvement of the PMS products, we depend on information from the field. Therefore, please send us the current generator logfile information.

### Please download the generator errorlog logfile.

The filename must express the generator serial number and generator release.

e.g. "23960234.tdl" for Rel. 2.3 and serial number 960234.

Send this file to:

Carsten Mais, Test & Integration Generators, PMS Hamburg,  
as attachment to E-Mail.

E-Mail:

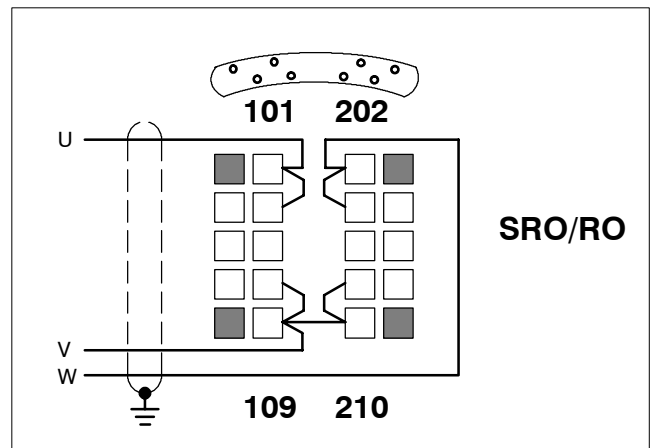
Carsten.Mais@philips.com

## 6. Stator inductance test

This test is suitable to detect internal stator coil shortcircuits.

Depending on the location of a possible shortcircuit (number of shorted wires), the resistance of the coil still shows a value within tolerance but the inductivity is out of tolerance. This leads to an increased stator current and can destroy the rotor control unit.

					SRO-Stator (mH)		
stator link			wire		-10%		+10%
U - V	101/103 - 107/109	=	1 - 2	≈	51,7	57	62,7
V - W	208/210 - 202/204	=	2 - 3	≈	30,6	34	37,4



- Stator links **not** removed.
- Stator wires U-V-W disconnected.

This check can be performed with a low-cost inductance measuring device to be obtained locally or to be ordered at the SL Hamburg with the 12NC 4512 101 77141.

Please send the measuring results including the tube type and serial number together with generator serial number and customer/site data to:

Dietmar Morgenstern    Service    Innovation  
Tubes

Email: [dietmar.morgenstern@philips.com](mailto:dietmar.morgenstern@philips.com).

or to

Help Xray Hamburg

Email: [Helpdesk.Xray.Hamburg@philips.com](mailto:Helpdesk.Xray.Hamburg@philips.com)

.

e.g.  
XYZ hospital,    Town, Country  
SRO 25 50 serial number    89123 – 654123  
Generator Optimus 50    970023  
  
Inductance:  
U-V = 56; V-W = 35

Appreciate your help and many thanks in advance.

## 7. Replacement procedure

### Caution

**Switch the generator off and disconnect it completely from mains with earth-leakage breaker or mains switch!**

### 7.1. Remove old RoCo unit

- Remove the data cable from back panel EZX 51 and leave it with the old RoCo unit.
- Disconnect the stator wires from the terminal EX 1100 (single tube generator).

In case Tube switch unit EWG is present:

- Remove plug EY 100 X3, it will be used again later.
- Disconnect stator cable Y100 – EWG at EWG K11:1 :2 :3 and leave it with the old RoCo unit.
- Remove the mains wires from ENF3: T1 :T2 :T3 and ENX 1102 and leave them with the old RoCo unit.
- Remove the RoCo unit completely from the generator.

### 7.2. Install the new RoCo unit

- Install the new unit into the generator.
- Connect the mains wires at ENF3: T1 :T2 :T3 and ground wire to ENX 1102.
- In case Tube switch unit EWG is present:
  - Establish stator cable of RoCo unit at EWG K11: 1 :2 :3.
  - Reestablish plug EY 100 X3.

Single tube generator

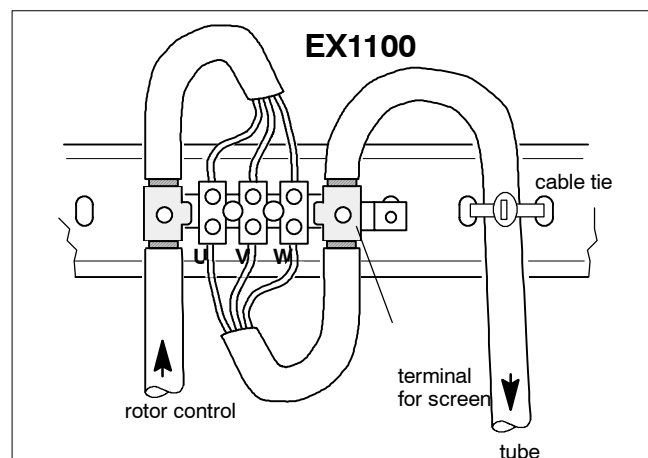
- Connect the stator cable to the terminal EX 1100 (U-V-W) and cable of RoCo unit likewise. Make sure the screen of the stator cable is properly connected to ground.
- Relieve the tension on the stator cable with a cable tie.

### Note

- Use screened cables. Connect the screen to earth at both ends. (0722 215 02054)
- Do not mix up the phases, otherwise components of the rotor control may be destroyed.

- Connect the data cable at EZX51.
- Tighten all cables and wires with cable ties.
- Check that the start up and brake function of the tube works normal.

In case rotation prolongation is programmed: Once started with PREP, the anode keeps rotating for 30 s after the last let go of the PREP position as long as no exposure has been switched. The tube finally stops if an exposure has been switched or after 30 s or if any of the desk buttons have been activated.



## 8. Documentation changes

- Exchange the drawings Z1-13.2 and 5Z-2 in service manual OPTIMUS RAD.

## 9. Return procedure

Due to the fact that no upgrade (or repair) to a new unit is possible this kit is **not** declared as "EU" (Exchangable Unit) therefore we only need the upgrade information to update the generator installed base database. Please send the last page with all information we asked to the mentioned address.

- The old rotor control unit and cables are to be disposed of in a safe way in accordance with local safety regulations.
- Fill out next page and send fax to mentioned address.

**Fax message****PHILIPS****Philips Medical Systems DMC GmbH****To: Günther Kramm Philips Medical Systems Fax: +49 40 50 78 1611**

Service Innovation generators

Email: Guenther.Kramm@philips.com

**From:**

Tel.:

Fax:

No. of pages: 1  
(incl. cover sheet)please copy  
locally

Ref. :

Date:

**Subject: Rotor Control HS replacement feedback information  
Release 2**

HOSPITAL / ADDRESS :

LOCATION / FW SITE NO.:

SALES ORDER NO. / OA NO.:

Generator PEI :

9	8	9	0	0	0	0	0	2	0	0	1
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Generator Serial Number :

Rotor Control HS PCB Barcode # :

JOB NO. / SERVICE INCIDENT NO.:

☐

Completed per instruction on

DATE

BRANCH  
REGION /  
DEALER :SERVICE UNIT /  
SERVICE AREA NO.:

SIGNATURE CUSTOMER SUPPORT ENGINEER

DATE

